

I Claim:

1. A reflection mask for projecting a structure onto a semiconductor wafer, comprising:

a carrier material having a front side and a rear side with a surface;

a layer stack for reflecting obliquely incident light and containing an alternating sequence of reflective layers formed on said front side of said carrier material;

a light-absorbing layer having at least one opening formed therein as the structure to be projected and disposed on said alternating sequence of reflective layers; and

an electrically conductive layer buried within said carrier material near said surface of said rear side of said carrier material.

2. The reflection mask according to claim 1, wherein said electrically conductive layer has a concentration of dopant atoms which are disposed within said carrier material.

3. The reflection mask according to claim 1, wherein said carrier material contains at least one material from a group of low thermal expansion materials.

4. The reflection mask according to claim 1, wherein said electrically conductive layer contains at least one element selected from the group consisting of gallium, aluminum, molecular hydrogen, boron, arsenic, and phosphorus.

5. The reflection mask according to claim 1, wherein said electrically conductive layer is formed in whole-area fashion near said surface on said rear side of said carrier material.

6. A method for producing a reflection mask, which comprises the steps of:

providing a mask blank formed of an electrically insulating carrier material, a layer stack for reflecting obliquely incident light, the layer stack having an alternating sequence of reflective layers formed on a front side of the carrier material, and a light-absorbing layer disposed on the layer stack;

doping the carrier material with ions on a rear side of the mask blank for forming a buried electrically conductive layer in the carrier material; and

forming openings as structures in the light-absorbing layer on a front side of the mask blank for further forming the reflection mask.

7. The method according to claim 6, which further comprises carrying out the doping step by ion beam implantation.

8. The method according to claim 6, which further comprises carrying out the doping step by applying a further layer containing the ions and a subsequent outdiffusion of the ions into the carrier material.

9. The method according to claim 6, which further comprises carrying out the doping in a whole-area manner on a rear side of the carrier material.

10. A method for chucking masks to a substrate holder, which comprises the steps of:

providing a reflection mask containing a carrier material having a front side and a rear side with a surface, a layer stack for reflecting obliquely incident light and containing an alternating sequence of reflective layers formed on the front side of the carrier material, a light-absorbing layer having at least one opening formed therein as a structure to be projected and disposed on the alternating sequence of

reflective layers, and an electrically conductive layer buried within the carrier material near the surface of the rear side of the carrier material; and

applying an electrostatic potential to the substrate holder.

11. The method according to claim 10, which further comprises forming the substrate holder from a material substantially corresponding to the carrier material of the reflection mask.